

**COMPARISON THE TOTAL AMOUNT OF MACROPHAGES ON  
FULL THICKNESS WOUND BED IN THE USE OF TULLE,  
FREEZE-DRIED AMNION AND MICROBIAL CELLULOSE IN  
RATTUS NOVERGICUS**

**Saktrio Darmono S. \*, Beta S. Nata'atmadja \*\*, David S.**

**Perdanakusuma \*\*\***

Department of Plastic Reconstructive and Aesthetic Surgery

Airlangga University School of Medicine

Dr. Soetomo Teaching Hospital Surabaya Indonesia

**ABSTRACT**

**Background :** Wound is the most frequent problems faced by a plastic surgeon. A wound is a break or discontinuity of the integrity of the skin, mucosa, or tissue. Many factors can affect the wound healing process. Macrophages as one indicator of wound healing which produces the majority of growth factor. Macrophages present in the wound within 24-48 hours after injury and peaked at 48-72 hours. Currently, there are variety of wound dressing available, which according to research can increase the levels of macrophages in the wound healing process.

**Objective :** Comparing the total amount of macrophages on full thickness wound bed in the use of tulle, freeze-dried amnion and microbial cellulose.

**Study design :** Experimental, post test only group design.

**Study method :** Using 21 male rats *Rattus norvegicus*. Full thickness wounds were made on the backs of mice. The wound was closed with tulle, amnion and microbial cellulose. The wound was evaluated on the second day. Samples wounds were fixed with 10% formalin solution. Examination of samples was done by Wright-Giemsa staining routine / Hemato-eosin under a microscope.

**Hypothesis :** There are differences in the increase in the number of macrophages in the wound bed by the use of tulle, amnion and microbial cellulose on the second day

**Results :** There are no differences in the increase in the number of macrophages in the wound bed by the use of tulle, freeze-dried amnion and microbial cellulose on the second day

**Keyword :** macrophage, tulle, amnion, microbial cellulose

**Correspondence :** Saktrio Darmono S., Department of Plastic Reconstructive and Aesthetic Surgery, Airlangga University School of Medicine, Dr Soetomo Teaching Hospital, Mayjen Moestopo Street No. 6-8, Surabaya, phone 550131

\*Plastic surgery resident at Medical School of Airlangga University/Dr.Soetomo Hospital Surabaya Indonesia

\*\*Plastic surgeons, junior staff at Medical School of Airlangga University/Dr.Soetomo Hospital Surabaya Indonesia

\*\*\*Plastic surgeons, senior staff at Medical School of Airlangga University/Dr.Soetomo Hospital Surabaya Indonesia

